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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/346,559	06/30/1999	DAVID GOLDBERG	D/99176	2589

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EXAMINER	
LAMB, TWYLER MARIE	
ART UNIT	**PAPER NUMBER**
2622	12

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/346,559	Applicant(s) GOLDBERG ET AL.	
	Examiner Twyler M. Lamb	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Withdrawal of Finality

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Notice to Applicant (s)

2. This action is responsive to the following communications: amendment A filed on 4/29/03 and the Appeal Brief filed on 2/9/04.

3. This application has been reconsidered. Claims 1-23 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,7,11,12-19,21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdybel, Jr. et al. (U.S. Patent Number 5,486,686) and in view of Holloway et al. (U.S. Patent 5,912,974).

Regarding claims 1 and 18, Zdybel discloses a method for authenticating a hardcopy document, comprising the steps of: recording in a memory a scanned representation of the hardcopy document at a selected resolution (column 6, lines 49-

62); and arranging in the memory the scanned representation of the hardcopy document with a digital encoding of the authentication data for rendering at a printer a signed and authenticated hardcopy document (column 8, lines 30-38).

Zdybel does not expressly teach generating lossy compressed image data wit the scanned representation of the hardcopy document; producing an authentication token with the lossy compressed image data, the authentication token including one of the encrypted image data and hashed encrypted image data, the hashed encrypted image data including the lossy compressed image data and an encrypted hash of the lossy compressed image data.

Holloway discloses an apparatus and method for authenticating printed documents that includes generating lossy compressed image data wit the scanned representation of the hardcopy document; producing an authentication token with the lossy compressed image data, the authentication token including one of the encrypted image data and hashed encrypted image data, the hashed encrypted image data including the lossy compressed image data and an encrypted hash of the lossy compressed image data (col 7, line 13 – col 9, line 2).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Zdybel to include generating lossy compressed image data wit the scanned representation of the hardcopy document; producing an authentication token with the lossy compressed image data, the authentication token including one of the encrypted image data and hashed encrypted image data, the hashed encrypted image data including the lossy compressed image data and an

encrypted hash of the lossy compressed image data as taught by Holloway.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Zdybel by the teaching of Holloway to ensure the authenticator verifies the image as taught by Holloway in col 7, line 13 – col 9, line 2.

Regarding claim 7, Zdybel discloses the method further comprising the step of encoding the authentication token in embedded data (column 8, lines 47-50).

Regarding claim 11, Zdybel discloses the method wherein said encoding step encodes the authentication token in data glyphs (column 9, lines 13-37).

Regarding claim 12, Zdybel discloses the method wherein said step of generating lossy compressed image data loses document formatting contained in the scanned representation of the hardcopy (column 7, line 62-column 8, line 4).

Regarding claim 13, Zdybel discloses the method wherein said step of generating lossy compressed image data further comprises the step of compressing the scanned representation of the hardcopy document by identifying exemplars and locations of exemplars (column 7, line 62 to column 8, line 4); each exemplar identified representing one or more image segments form the scanned representation of the hardcopy document (column 7, lines 4-29).

Regarding claim 14, Zdybel discloses the method wherein said compressing step records the exemplars at a resolution that is less than the selected resolution of the scanned representation of the hardcopy document (column 7, line 49 to column 8, line 4).

Regarding claim 15, Zdybel discloses the method wherein said compressing step

records that locations of exemplars at a resolution that is less than the selected resolution of the scanned representation of the hardcopy document (column 7, line 49 to column 8, line 4).

Regarding claim 16, Zdybel discloses the method wherein said compressing step compresses identified portions of the image data at a plurality of compression ratios (column 10, line 40 to column 11, line 9).

Regarding claim 17, Zdybel discloses the method further comprising the step of segmenting text data from the pictorial data before compressing the scanned representation of the hardcopy documents (column 9, lines 53-68).

Regarding claim 19, Zdybel discloses the method further comprising the step of fixedly attaching the label to the hardcopy document to produce a signed hardcopy document (column 11, lines 13-26; hardcopy can be read as label and can be attached to a hardcopy to produce a signed hardcopy document).

Regarding claim 21, Zdybel discloses a system for authenticating a scanned representation of a hardcopy document, comprising: an image compression module for generating lossy compressed image data wit the scanned representation of the hardcopy document (column 7, line 62 to column 8, line 4); an authentication token generator for producing an authentication token with the lossy compressed image data (column 8, lines 38-50), the authentication token including one of the encrypted image data and hashed encrypted image data(column 8, lines 47-50), the hashed encrypted image data including the lossy compressed image data and an encrypted hash of the lossy compressed image data (column 9, lines 38-45); and an encoding module for

arranging in the memory the scanned representation of the hardcopy document with a digital encoding of the authentication data for rendering at a printer a signed and authenticated hardcopy document (column 8, lines 30-38).

Regarding claim 23, Zdybel discloses the system wherein said image compression module compresses the scanned representation of the hardcopy document by identifying exemplars and locations of exemplars (column 7, line 62 to column 8, line 4); each exemplar identified representing one or more image segments form the scanned representation of the hardcopy document (column 7, lines 4-29).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-5, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdybel, Jr. et al. (U.S. Patent Number 5,486,686) in view of Holloway et al. (U.S. Patent 5,912,974) and further in view of Merkle et al. (U.S. Patent 5,157,726).

Regarding claim 2, Zdybel discloses the method further comprising the step of verifying the signed hardcopy document by: recording a scanned representation of the signed hardcopy document (column 6, lines 49-62), decoding the authentication token form the scanned representation of the signed hardcopy document, authenticating the

lossy compressed image data using one of the encrypted image data and the hashed encrypted image data (column 8, lines 38-50), and decompressing the authenticated lossy compressed image data for comparison with the signed hardcopy document to determine whether the signed hardcopy document is authentic.

Zdybel fails to disclose the method further comprising the step of verifying the signed hardcopy document by: decoding the authentication token form the scanned representation of the signed hardcopy document and decompressing the authenticated lossy compressed image data for comparison with the signed hardcopy document to determine whether the signed hardcopy document is authentic.

However, Merkel discloses the method further comprising the step of verifying the signed hardcopy document by: recording a scanned representation of the signed hardcopy document (column 3, lines 61-67), decoding the authentication token form the scanned representation of the signed hardcopy document (column 4, line 66, to column 5, line 32), authenticating the lossy compressed image data using one of the encrypted image data and the hashed encrypted image data and decompressing the authenticated lossy compressed image data for comparison with the signed hardcopy document to determine whether the signed hardcopy document is authentic (column 3, line 67 to column 4, line 10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Merkle with the teachings of Zdybel to authenticate a copy to verify that the copy is in fact identical to an original document from which the copy was prepared.

Regarding claim 3, Zdybel fails to disclose the method further comprising the step of visually comparing the signed hardcopy document with the authenticated lossy compressed image data.

However, Merkle discloses the method further comprising the step of visually comparing the signed hardcopy document with the authenticated lossy compressed image data (column 3, line 67 to column 4, line 10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Merkle with the teachings of Zdybel to authenticate a copy to verify that the copy is in fact identical to an original document from which the copy was prepared.

Regarding claim 4, Zdybel fails to disclose the method further comprising the step of visually comparing the signed hardcopy document with a printed hardcopy document of the authenticated lossy compressed image data.

However, Merkle discloses the method further comprising the step of visually comparing the signed hardcopy document with a printed hardcopy document of the authenticated lossy compressed image data (column 8, lines 37-68).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Merkle with the teachings of Zdybel to authenticate a copy to verify that the copy is in fact identical to an original document from which the copy was prepared.

Regarding claim 5, Zdybel fails to disclose the method wherein said step of producing an authentication token is performed with a private key and said step of

authenticating lossy compressed image data is performed with a public key.

However, Merkle discloses the method wherein said step of producing an authentication token is performed with a private key (column 3, lines 53-55) and said step of authenticating lossy compressed image data is performed with a public key (column 3, lines 61-64).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Merkle with the teachings of Zdybel to authenticate a copy to verify that the copy is in fact identical to an original document from which the copy was prepared.

Regarding claim 20, Zdybel discloses the method further comprising the step of verifying the signed hardcopy document by: recording a scanned representation of the signed hardcopy document (column 6, lines 49-62), decoding the authentication token form the scanned representation of the signed hardcopy document, authenticating the lossy compressed image data using one of the encrypted image data and the hashed encrypted image data (column 8, lines 38-50), and decompressing the authenticated lossy compressed image data for comparison with the signed hardcopy document to determine whether the signed hardcopy document is authentic.

Zdybel fails to disclose the method further comprising the step of verifying the signed hardcopy document by: decoding the authentication token form the scanned representation of the signed hardcopy document and decompressing the authenticated lossy compressed image data for comparison with the signed hardcopy document to determine whether the signed hardcopy document is authentic.

However, Merkel discloses the method further comprising the step of verifying the signed hardcopy document by: recording a scanned representation of the signed hardcopy document (column 3, lines 61-67), decoding the authentication token form the scanned representation of the signed hardcopy document (column 4, line 66, to column 5, line 32), authenticating the lossy compressed image data using one of the encrypted image data and the hashed encrypted image data and decompressing the authenticated lossy compressed image data for comparison with the signed hardcopy document to determine whether the signed hardcopy document is authentic (column 3, line 67 to column 4, line 10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Merkle with the teachings of Zdybel to authenticate a copy to verify that the copy is in fact identical to an original document from which the copy was prepared.

Regarding claim 22, Zdybel discloses the system further comprising: a memory recording a scanned representation of the signed hardcopy document (column 6, lines 49-62), a decoding module for decoding the authentication token form the scanned representation of the signed hardcopy document, an authentic module for authenticating the lossy compressed image data using one of the encrypted image data and the hashed encrypted image data (column 8, lines 38-50), a decompression module for decompressing the authenticated lossy compressed image data to define decompressed image data; means for comparing the signed hardcopy document to determine whether the signed hardcopy document is authentic.

Zdybel fails to disclose the method further comprising the step of verifying the signed hardcopy document by: a decoding module for decoding the authentication token form the scanned representation of the signed hardcopy document and a decompression module for decompressing the authenticated lossy compressed image data to define decompressed image data and means for comparing the signed hardcopy document to determine whether the signed hardcopy document is authentic.

However, Merkel discloses the method further comprising the step of verifying the signed hardcopy document by: a memory for recording a scanned representation of the signed hardcopy document (column 3, lines 61-67), a decoding module for decoding the authentication token form the scanned representation of the signed hardcopy document (column 4, line 66, to column 5, line 32), an authentication module for authenticating the lossy compressed image data using one of the encrypted image data and the hashed encrypted image data, a decompression module for decompressing the authenticated lossy compressed image data to define decompressed image data (column 3, line 67 to column 4, line 10) and means for comparing with the signed hardcopy document to determine whether the signed hardcopy document is authentic (column 3, line 67 to column 4, line 10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Merkle with the teachings of Zdybel to authenticate a copy to verify that the copy is in fact identical to an original document from which the copy was prepared.

5. Claims 6 and 8-10 are rejected under 35 U.S.C. 1 03(a) as being unpatentable

over Zdybel, Jr. et al. (U.S. Patent Number 5,486,686) and further in view of Curry (U.S. Patent Number (5,706,099).

Regarding claim 6, Zdybel fails to disclose the method further comprising the step of encoding the authentication token in a low intensity background pattern.

However, Curry discloses the method further comprising the step of encoding the authentication token in a low intensity background pattern (column 3, line 31-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Curry with the teachings of Zdybel to have a less obtrusive code that will not affect the tone of the image upon rotation and will still allow data to be encoded within the halftone image.

Regarding claim 8, Zdybel fails to disclose the method further comprising the encoding step encodes the authentication token in a halftone pattern.

However, Curry discloses the method further comprising the encoding step encodes the authentication token in a halftone pattern (column 3, line 31-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Curry with the teachings of Zdybel to have a less obtrusive code that will not affect the tone of the image upon rotation and will still allow data to be encoded within the halftone image.

Regarding claim 9, Zdybel fails to disclose the method further comprising the encoding step encodes the authentication token in a hyperbolic halftone pattern.

However, Curry discloses the method further comprising the encoding step encodes the authentication token in a hyperbolic halftone pattern (column 3, line 31-57

and column 4, line 63 to column 5, line 2).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Curry with the teachings of Zdybel to have a less obtrusive code that will not affect the tone of the image upon rotation and will still allow data to be encoded within the halftone image.

Regarding claim 10, Zdybel fails to disclose the method further comprising the encoding step encodes the authentication token in a serpentine halftone pattern.

However, Curry discloses the method further comprising the encoding step encodes the authentication token in a serpentine halftone pattern (column 3, line 31-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the inventions were made to include the teachings of Curry with the teachings of Zdybel to have a less obtrusive code that will not affect the tone of the image upon rotation and will still allow data to be encoded within the halftone image.

Response to Arguments

5. Applicant's arguments, see Amendment A, page 7 - page11, filed 4/29/03, with respect to the rejection(s)of claim(s) 1-23 under 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Holloway et al. (US 5,912,974).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Twyler Lamb whose telephone number is 703 - 308-8823. The examiner can normally be reached on M-TH (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L Coles can be reached on 703-308-4712. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9314 for After Final communications.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

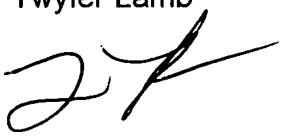
or faxed to:

(703) 872-9314
(for informal or draft communications, such as proposed amendments to be discussed at an interview; please label such communications "PROPOSED" or "DRAFT")

or hand-carried to:

Crystal Park Two
2121 Crystal Drive
Arlington. VA.
Sixth Floor (Receptionist)

Twyler Lamb



April 19, 2004